Volume: 4 Issues: 21 [June, 2019] pp. 87 - 103]
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com

ASSESSING THE MALAYSIA'S HIGHER EDUCATION FUNDING MODEL: SCANDINAVIAN VERSUS THE ANGLO-AMERICAN APPROACH

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Accepted date: 13-05-2019
Published date: 01-07-2019

To cite this document: Ahmad, N., Ismail, R., & Abdul Hakim, R. (2019). Assessing The Malaysia's Higher Education Funding Model: Scandinavian Versus the Anglo-American Approach. *Journal of Islamic, Social, Economics and Development (JISED)*, 4(21), 87 - 103.

Abstract: *Around the world, funding for higher education has always been and continues to dominate the issues relating higher education. In Malaysia, despite huge subsidies allocated for higher education, there is an argument that fees should be abolished and higher education should be provided for 'free', out of tax-payers money as to ensure the widening access among population. Prompted by this argument, the paper attempts to analyse in terms of where does Malaysia stand based on two different approaches observed in higher education financing i.e. the Scandinavian and Anglo-American approaches. As a matter of fact, the Scandinavian approach stresses more on social welfare, strong government intervention and higher taxes while the Anglo-American promotes free market economy with flexible labour force and low government interference. Following Docampo (2007), we apply the plotting technique (scatter plot in SPSS 14) by using seven variables which includes public spending on education (I1), public spending on higher education (I2), private spending on higher education (I3), total spending on higher education (I4), taxes on average worker (I5), gross enrolment ratio (I6) and gross domestic expenditure on R&D (I7) to show the consistency between indicators that manifest clustering of Scandinavian and Anglo-American approach among countries. An indication that can be obtained is Malaysia does implement the hybrid approach (public-private spending on its higher education) of the two models, but when looking on its excessive higher education public spending, it is clarified that they were leaning more towards Scandinavian Approach. Based on the analysis, both public and private spending on higher education illustrates the existence of significance influence towards the gross enrolment ratio. However, Anglo-American countries that are high with their private spending on higher education (I3) have better enrolments as compared to the Scandinavian countries with high public spending (I2). Further investigation is carried out to see the significant impact of these policy variables on enrolments. The OLS regression shows that the private spending (I3) has better coefficients as compared to the public spending (I2) in enhancing access, lending*

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support towards worldwide reform of cost-recovery in higher education. For Malaysia, where higher education involves a considerable amount of public resources, combining with a low tax regime, policy of enhancing enrolment in higher education through increasing public spending may pose a burden to the government, not to mention considering 'free education' for all and abolishing higher education fees. While the finding signifies the importance of private spending in enhancing access, a careful consideration should also be placed on tackling the issue of equity.

Keywords*: Scandinavian Approach; Anglo-American Approach; Higher Education; Tertiary Enrolment*

Introduction

Higher education is considered as the engine of growth. Not only it contributes directly to the economic development of a country but it provides the foundation for the formation of democratic civil societies, policy instrument for individual economic mobility and social justice (Johnstone, 1986). Higher education is nevertheless expensive, thus the issue of who should bear the cost of higher education is widely discussed and debated. The point is that, there is no easy way on how to determine the optimal balance between the public and private sharing of higher education cost.

Higher education provides positive externalities, promote growth, highly contribute to private benefits and bear the characteristics of public goods which make it difficult to draw the line to determine who benefits more *i.e.* whether the individual or the society at large. In the 1950s and 1960s there was a dominant view that public education including higher education should be made available free of charge (financed through taxpayers money). Thus we found that education was highly subsidized. Apart from subsidizing tuition fees, maintenance grants to cover living expenses were also in place. The students just have to pay minimal tuition fees (5%-10%), supported by a subsidized student loan given accordingly based on parental income. However, the policy of 'free' education seems to confront many challenges. Fiscal pressures, consistent rises in unit costs of providing higher education and rapid growth of student enrolments are the main factors which lead to a reform in higher education financing. With the tuition fees (can be classified into traditional fees, government-funded fees, parallel fees and two-tiered fees), that becomes the primary sources of private funding to institution, other private sources of income has beginning to play important role in helping the institutions such as the alumni, philanthropy and industry. The Higher Education Blueprint and Tenth and Eleventh Malaysia Plans (2011-2020) thrust even then stated, that the public universities had to diversify their sources of income, to be financially sustainable thus reducing their reliance on government (self-finance). Many countries also have resorted to increasing private contribution to higher education through cost recovery (parents and students increase contribution towards higher education costs). However, cost recovery cannot be implemented without a proper mechanism to support this move. Normally cost recovery will be implemented with the setting up of student loan programs as to help students to pay for their higher education costs. As in Malaysia, the student loan program (NHEFC) or the PTPTN has been set up for this purpose, and it has been covering the students' living expenses as well.

Similar with many countries around the world, Malaysia is also facing the same problem with regards to higher education financing. Along with the rising number of higher education institutions for both private and public institutions of higher learning, there is also quite a steady

increase in the total number of students' enrolment in tertiary education. From a merely 698,156 students' enrolment in 2003, the number has increased to more than one million students in 2018. With the rising costs of higher education, budgetary constraints and widening access, it is nevertheless crucial for the government to review its public and private funding in higher education while considering the relevant of having a 'free' education system.

While the issue of higher education funding continues to dominate the policy debates, this paper attempts to highlight the current funding policy in Malaysia as compared to other selected countries based on two 'stylized' models of 'Scandinavian' and 'Anglo-American'. The paper will also touch on the issue of access with particular attention given to few selected policy variables. Following the introduction in the first section, section 2 will briefly discuss the expansion of higher education in Malaysia and issues related to funding. Section 3 will focus on the discussion of the two 'stylized' models of higher education funding *i.e.* the 'Scandinavian' and the 'Anglo-American' model and the analysis is performed in order to evaluate the current funding model for Malaysia. Section 4 examines the policy variables related to widening access and section 5 concludes the paper.

Funding for Higher Education and the Expansion of Higher Education in Malaysia

With regards to the expansion of higher education in Malaysia, it is closely related to the development policies and income distribution. During the First Malaysia Plan (1966-1970) the establishment of universities and colleges in Malaysia was closely related to human resource requirement. Apart from that, addressing the issue of widening income gap among various races in Malaysia formed another purpose for the establishment of higher education institutions. During Second Malaysia Plan i.e. in the period of New Economic Policy, there was a greater democratization of higher education. In this regards, more universities were established in the 1970s. During the Third Malaysia Plan (1976-1980) the development of human resource, especially in the professional and technical fields continued to be of significance important. Indeed, the importance of these professional and technical fields had influenced the directions in higher education and planning. During the Third Malaysia Plan, enrolment of students in the arts and social sciences showed decrement as enrolments of engineering and medical, likewise the science related disciplines increased. Subsequently during Fourth Malaysia Plan (1981-1985), Fifth Malaysia Plan (1986-1990), Sixth Malaysia Plan (1991-1995), and the Seventh Malaysia Plan (1996-2000), we saw quite a huge increment as well in the enrolment of these science stream disciplines. Then in 1996, as the Private Higher Educational Institutional Act was passed, the establishment of private higher education institutions (IPTS) in Malaysia thus started.

While in many parts of the world, the policy makers are always under constant pressure to ensure quality education while increasing access to educational opportunities. Public spending on education, as percentage of total public spending can be a measure on how important is education relative to that other area of public spending. On average, OECD countries spend around 13% of total public expenditures to education, with levels ranging from less than 10% in Czech Republic, Slovak Republic, Italy and Japan and more than 19% in Chile, Mexico and New Zealand, (Education at A Glance 2012). With regards to Malaysia, the figure stands at 21.9% in 2009, 22.8% in 2010, 16.7% in 2011 and 17.2% in 2012. In general the figures for Malaysia are higher than the OECD average. In terms of percentage of GDP, on average OECD countries spend 6.2% of their GDP on education and 1.6% on tertiary education. Canada, Chile, Korea and the United States spend between 2.4% and 2.6% of their GDP on tertiary education. Comparing with the OECD countries, spending for higher education as percentage of GDP for

Malaysia is above the OECD average which is 3.25%, and the private spending is 0.9%, both are highest in the world (World Bank Report 2011).

In Malaysia, most of the public higher education costs are funded by the federal government through the allocation of budget for operation every year as well as lump-sum funding for development expenditure, including research grants that are sometimes provided by the Ministry of Science, Technology and Innovation (MOSTI). Data (2013) shows that for the public universities around RM8 billion per year is allocated as operating grant and another RM4 billion per year as a development fund. Community colleges receive around RM2 billion per year and there is no on-going funding to private universities. However some universities which are under government-linked-companies do receive funding occasionally. On average up to 95% of the revenues of universities come from the government including grants. Nonetheless, according to the Higher Education Blueprint and the Tenth and Eleventh Malaysia Plans (2011-2020) thrust, new funding mechanisms from the government are no longer will be in the form of fixed operating and development budgets or block grants. The new mechanisms will be linked allocation to performance for specific outcomes, such as production of undergraduates and postgraduates, research projects and commercialised products. This is to ensure higher productivity and increase accountability of the public universities.

Sharing between public and private entities in financing higher education differ across countries. For the OECD countries, on average, the private funding represents 30% of total expenditure on educational institutions. For countries like Denmark, Finland and Norway less than 5% contribution coming from private entities compared to more than 40% in Australia, Japan and the United States. For countries like Canada, Australia, Japan, Korea, UK and US, the private entities other than individual households show a contribution of more than 10% towards higher education spending. This data signifies the importance of private funding towards higher education in these countries. The trend shows that between the year 2000 and 2009, public spending on all levels of education has increased in all OECD countries, and the same goes to private spending. This indicates that the public investment is less likely going to replace the private spending for higher education.

There are also strategies taken by the government to help students to pay for higher education, including financial aid sponsored by the government or provided by institutions and private individual or organizations. The government-funded student aid can be either in terms of non-repayable aid, such as grant or scholarship and repayable aid, such as student loans. Issues concerning the student aid have gained much attention in terms of what is the best mixture between the two. Moreover the issues also evolve around of what is the best mixture between student aid and institutional support.

In Malaysia, as far as student financing is concerned, before 1996, the students funding are mainly in the form of scholarships. The financial supports for students are provided by the Public Service Department (PSD), MARA[1], as well as other agencies such as the various state foundations. With the introduction of the Private Higher Educational Institutional Act 1996 and together with the establishment of National Higher Education Fund Corporation in 1997 or popularly known as Perbadanan Tabung Pendidikan Tinggi Negara (PTPTN), there is quite

[1]Majlis Amanah Rakyat (MARA), or Council of Trust for the People is an agency under the purview of Ministry of Rural and Regional Development, which established on the 1st March 1966 as a statutory body by an Act of Parliament, as a result of the first Bumiputera Economic Congress resolution in 1965. The Council is responsible for developing, encouraging, facilitating and fostering the economic and social development in the federation, particularly in rural areas.

a drastic change in financing the higher education in Malaysia towards cost-recovery (sharing the cost of higher education through students' contribution).

In 2007, Ministry of Higher Education (MOHE) has launched The National Higher Education Strategic Plan (NHESP) Beyond 2020. The formulation of NHESP is basically to complement the Ninth Malaysia Plan (2006-2010), which emphasized on the second phase of the government's effort to achieve Vision 2020. To become a developed country in 2020, the NHESP targeted that 33% of the total labor force should have tertiary education; this objective of broadening the access and equity in higher education by the NHESP requires transformation, which will be implemented in stages (Figure 1).

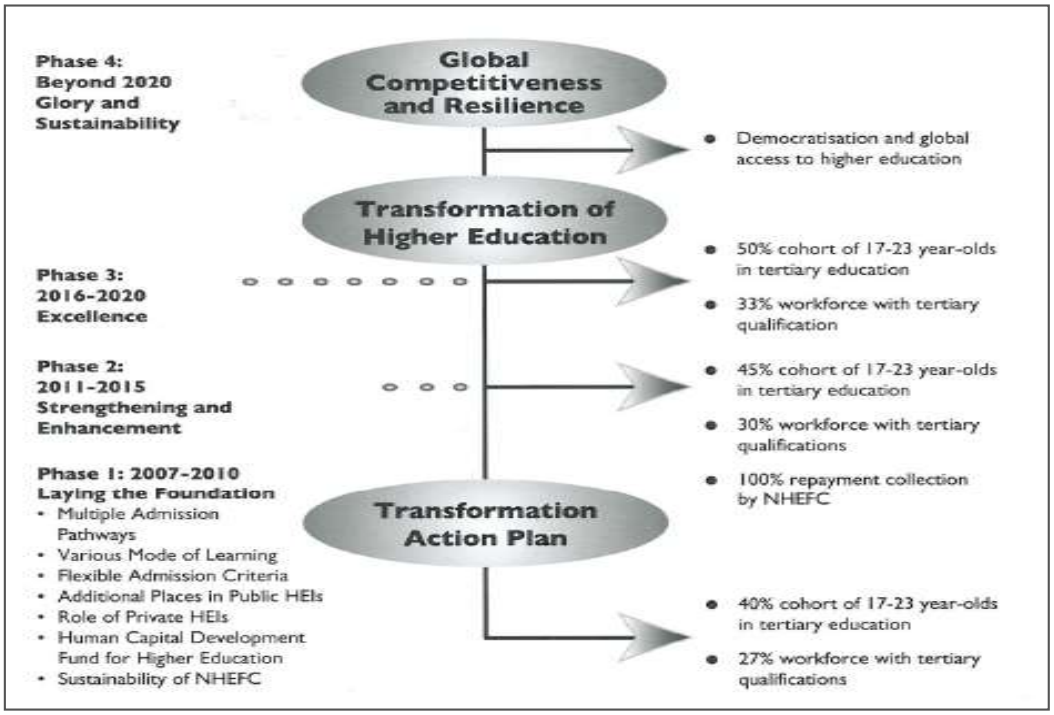

Figure 1: Access and Equity
Source: The National Higher Education Strategic Plan (2007)

With this as in 2015, there are a total of 20 public universities and about 514 private higher education institutions have been operated, comprises of private universities, university colleges and private colleges. There are also quite a number of polytechnics and community colleges as well, as shown in Table 1. Along with the expansion of these higher education institutions, there is also quite a steady increase in the number of students' enrolment on both the public and private institutions in higher education (Table 2).

Table 1: Number of higher education institutions by types (as in 2015)

Type of Institutions	**Total numbers**
Public universities	20
Polytechnics	34
Community College	94
Private university	70
University College	34
Private College	410
TOTAL	662

Source: Ministry of Higher Education (2017)

Table 2: Total enrolment of students in public and private institutions of higher education at all level of study

Year	Total Enrolment
2003	698,156
2004	716,294
2005	674,499
2006	774,280
2007	873,238
2008	947,828
2009	1,050,726
2010	1,134,134
2011	1,056,472
2012	1,114,589
2013	1,156,293
2014	1,167,077
2015	1,236,164

Source: Statistics of Higher Education of Malaysia (2017)

Furthermore, it is projected that enrolment in higher education will increase to 50% in 2020 for the population age cohort of 17-23 years old. This projected increase in student enrolment will nevertheless, have profound implications on the higher education funding; as financing the public higher education costs are mainly relied on the public funds.

With the rising costs of higher education, budgetary constraints and widening access, it is nevertheless crucial for the government to review its public and private funding in higher education while considering the relevant of having a 'free' education system. Thus now, it is time to highlight the current funding policy in Malaysia as compared to other selected countries based on two 'stylized' models of 'Scandinavian' and 'Anglo-American'.

Higher Education Funding: A Stylized Model

The nature of tertiary funding policies is characterized in terms of two 'stylized' models, the 'Scandinavian Model' and 'Anglo-American Model' (Barr, 2004). The Scandinavian or Nordic model is a social welfare approach that put forward particular state benefits to citizens despite of their status of professions. In Nordic countries, the taxes charges are high, and tertiary education is equally seen as ultimately a public and political concern (strong government intervention) where there is equitable access to universal high quality public services offer by the state, the private sector plays a negligible role and free tuition fees, though there is growing pressure from finance capital for this model (Valimaa, 2005). This model is often compared to the Anglo-American social model which promotes employment seeking behavior rather than to live on welfare. The Anglo-American model is a free market economy with flexible labor force and low governmental interference in the economy. This laissez-faire model's competition policy is rather ambitious and the state promotes the market participants to co-provide services, leaves recipients with their choices in opting between public and private providers and labor affairs are also decentralized (Guger et.al, 2007).

In considering these two models, there seems to be various arguments on which approach is better to the other. Many believe that increasing public support for higher education (Scandinavian Approach) will lead to greater access while some believe that with the limited

fund facing by the government, widening access is rather impossible. Thus, in this case private contribution (cost recovery); which synonym with the Anglo-American Approach is much called for if access is to be increased. With that, the debate on public versus private contributions towards the higher education, seems to be carried on, dominating issues on the higher education financing.

i. Data and Methods of Analysis

Prompted by the issue of public and private higher education funding across the world in general and Malaysia in particular, we try to analyze the two different approaches observed in tertiary education funding. We compare the role of government policies in promoting higher education through the plotting technique to see the divergence between the Scandinavian and Anglo-American. The analysis will enable us to spot where Malaysia stands between the two models. There were other analysis within the same area that have been using plotting method in evaluating relationship between the education indicators and income or expenditure, as such by Abdullah, Doucouliagos & Manning (2013) and Tang & Yin (2012). In assessing the accessibility in higher education, we run the OLS regression to determine the effect of different policies on enrollment.

The data used in the study are from the compilation by Education at a Glance OECD that was released in September 2012. We have chosen Scandinavian countries, a number of continental European countries including the three largest among them, some Asian countries, and countries in the Anglo-American track to be compared with Malaysia. The data for countries in Education at a Glance except for Malaysia has been compiled in 2012 but corresponds in general to 2009. The data for taxes on average worker for some countries are obtained through certain official websites. Data for enrolment indicator are based on the World Bank corresponding gross enrolment ratio i.e. the actual number enrolled as a percentage of the number of youth in the official age group (Docampo, 2007). As for Malaysia, the data are collected from its local ministry departments.

Data selected are based on the following indicators (Docampo, 2007);

I1 Public expenditure on education as a percentage of GDP.
I2 Public expenditure on higher education as a percentage of GDP.
I3 Private expenditure on higher education as a percentage of GDP.
I4 Total expenditure on higher education as a percentage of GDP.
I5 Taxes on average worker.
I6 Gross enrolment ratio.
I7 Gross domestic expenditure on R&D relative to GDP.

where,

1. Public expenditures corresponds to OECD indicator B4.1, which measures direct public expenditures on educational institutions plus public subsidies to households (which include subsidies for living costs) and other private entities as a percentage of GDP. We have selected indicator B4.1 for the reason that if equity is what is at stake, not only direct expenses on institutions are to be measured, student help to cover living expenses should be accounted for as well.

2. Private expenditures in higher education corresponds OECD statistics, which measures funding to educational institutions by private sources.
3. Taxes on average worker corresponds OECD Economic indicator.
4. Gross Enrolment Ratio which is actual number enrolled as a percentage of the number of youth in the official age group corresponds the World Bank.
5. Gross Domestic Expenditure on R&D as a percentage of GDP corresponds OECD statistics.
6. As for Malaysian data, public expenditure on education are based on World Bank database, gross domestic expenditure on R&D data are obtained from Malaysian Ministry of Science, Technology and Innovation (MOSTI). Data on taxes on average worker are from Inland Revenue Board of Malaysia whereas public, private and total expenditure on higher education are gathered from the Malaysian Ministry of Finance (MOF).

Firstly, a correlation matrix is formed through the data collected concerned to countries' indicators 1 to 7. Relevant pair of variables that manifest the clustering of Scandinavian and Anglo-American approach afterwards been compared and then plotted to show the consistency between indicators among countries (Figure 2 to 7). Across the plots, the following acronyms are used: 1 -Argentina, 2- Australia, 3- Austria, 4- Belgium, 5- Brazil, 6- Canada, 7- Chile, 8- Czech Republic, 9- Denmark, 10- Estonia, 11- Finland, 12- France, 13- Germany, 14- Hungary, 15- Iceland, 16- India, 17- Indonesia, 18- Ireland, 19- Israel, 20- Italy, 21- Japan, 22- South Korea, 23- Malaysia, 24- Mexico, 25- Netherlands, 26 -Norway, 27- New Zealand, 28- Poland, 29- Portugal, 30- Russian Federation, 31- Slovak Republic, 32- Slovenia, 33- South Africa, 34- Spain, 35- Sweden, 36- Switzerland, 37- United Kingdom, 38- United States of America. Then the country plots divergences between both models been observed hence where Malaysia stands can be spotted.

This analysis will signify of how Malaysia implements its policies, especially public and private funding policies towards higher education and whether it follows the nature of pure Scandinavian or the Anglo-American countries.

Findings

The correlation matrix concerning countries' Indicators 1 to 7 is shown in the Table 3.

Table 3: Correlation matrix

Correlation	I1	I2	I3	I4	I5	I6	I7
I1	1.00	0.79	-0.33	0.40	0.16	0.45	0.42
I2		1.00	-0.32	0.56	0.17	0.40	0.40
I3			1.00	0.61	-0.57	0.31	0.15
I4				1.00	-0.34	0.60	0.44
I5					1.00	0.05	0.12
I6						1.00	0.52
I7							1.00

Divisions of countries among Scandinavian approach and Anglo-American approach are being shown in the figures as different range of policies' implementations of the public and private spending, taxes on average worker, enrolment and R&D expenditure been plotted distinctly within both approaches.

Figure 2 shows the public policies of funding for all levels of education and for the particular segment higher education. The correlation coefficient is quite high, 0.79. Scandinavian countries score high in the two indicators especially for Denmark stands at the top and New Zealand seems to join them at short distance. Some distance after that is followed by Austria, Netherlands and Malaysia. It also shows how Indonesia, Japan, Slovak Republic and South Africa fall behind these two indicators.

Figure 3 shows the extent of public spending versus total spending in higher education. It obviously reflects the clustering of four Scandinavian countries around the highest position in public spending and among the top in total spending in higher education and followed by New Zealand at short distance. Now, except for Scandinavian countries, the division is now fuzzier. Indonesia, Slovak Republic and Italy are at the least for I2 and I4. The correlation coefficient is lower compared to Figure 2 which is 0.56 which means that private spending on tertiary education has illustrated its influence at this point. Both the Scandinavian and Anglo American approaches show high total spending in higher education but with different range of public and private sharing of the higher education costs. As can be seen, for the Scandinavian countries, most of its higher education funding are from the public sources. For Malaysia, its total spending for higher education is somewhat below, compared to both Scandinavian and the Anglo-American, and stands in between the two in terms of public spending for higher education.

Figure 4 shows all of the Scandinavian countries except for Norway display highest record in R&D spending. As for United States and South Korea, they combine high spending in higher education as well as R&D. In fact they are the highest spender for tertiary education. The correlation coefficient is now 0.44, and again Indonesia, Slovak Republic and Italy fall behind on the total spending in tertiary education. Malaysia is showed as one of the least R&D spending country.

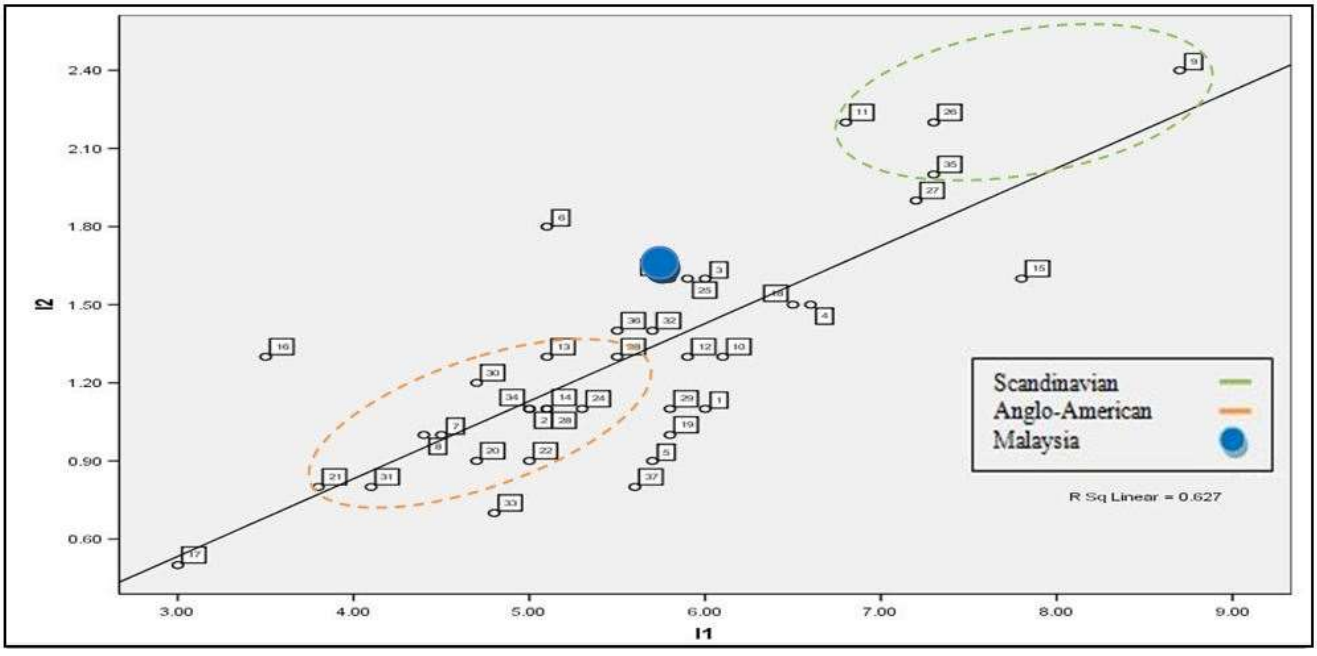

Figure 2: Public Spending on Education versus Public Spending on Higher Education

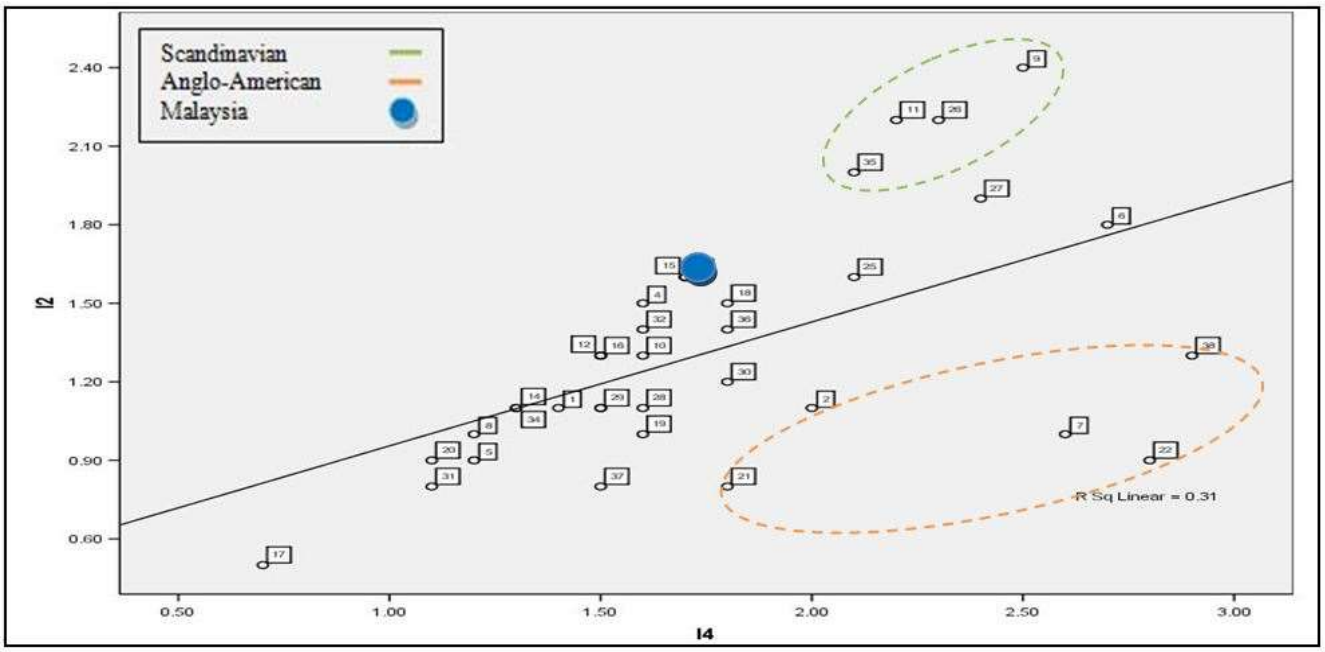

Figure 3: Public Spending on Higher Education versus Total Spending on Higher Education

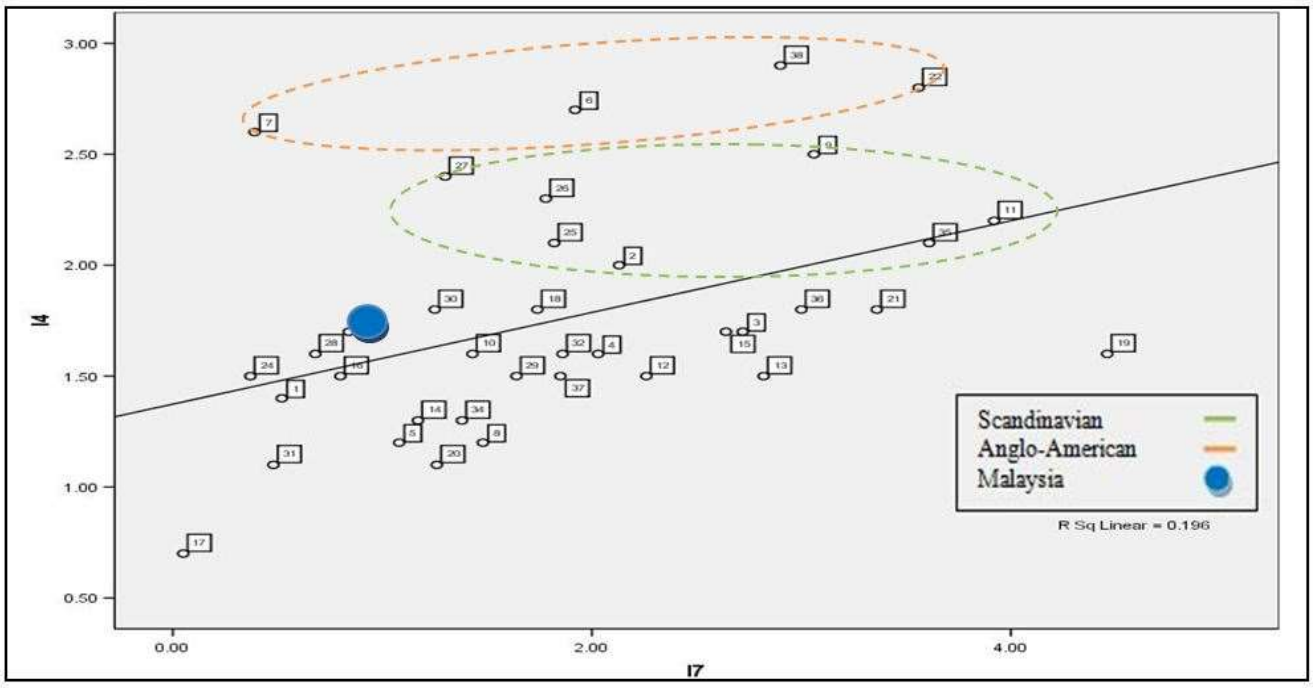

Figure 4: Gross Domestic Expenditure on R&D versus Total Spending on Higher Education

Meanwhile in Figure 5, it shows the amount of public spending on higher education versus taxes on average worker. Higher public spending for the Scandinavian countries can be attributed to higher taxes. In terms of Malaysia the finding shows, that its public spending on higher education is higher than the Anglo-American equivalents, as percentage of the countries' GDP but in terms of taxes on average worker, their figures do not show much different. And again, Figure 5 also shows apparent signal of the clustering of all Scandinavian

countries. The divide is now clearer when United States, Australia and United Kingdom are in a closer position. At this instant, South Korea falls behind on both I5 and I2. The correlation coefficient is very low (0.17) to be compared with the value in Figure 6, which shows slightly higher value (-0.34), aside from it is a negative coefficient for I4 and I5. This happens as total spending is taken into account in Figure 6. Consequently we could claim that private spending correlates well (0.57 in absolute value) with the taxes on average worker. Obvious clustering for Scandinavian countries again, took place in Figure 6 that it is followed by Netherlands at a short distance; combining large income tax levels with high public and total spending in tertiary education.

Finally Figure 7, reveals the clustering of Scandinavian countries but this time, it is closed to the countries that made room for private spending in tertiary education (with United States and South Korea). At this instant I4 and I6 give 0.60 correlation coefficient score. It shows, that increasing spending (either way public or private), have a reasonably impact on enrolment and equity. Another finding to note is that, comparing with both the Scandinavian and Anglo-American countries, Malaysia reported a lower gross enrolment ratio. However this result is intuitively corresponds to the somewhat lower amount of total spending for higher education.

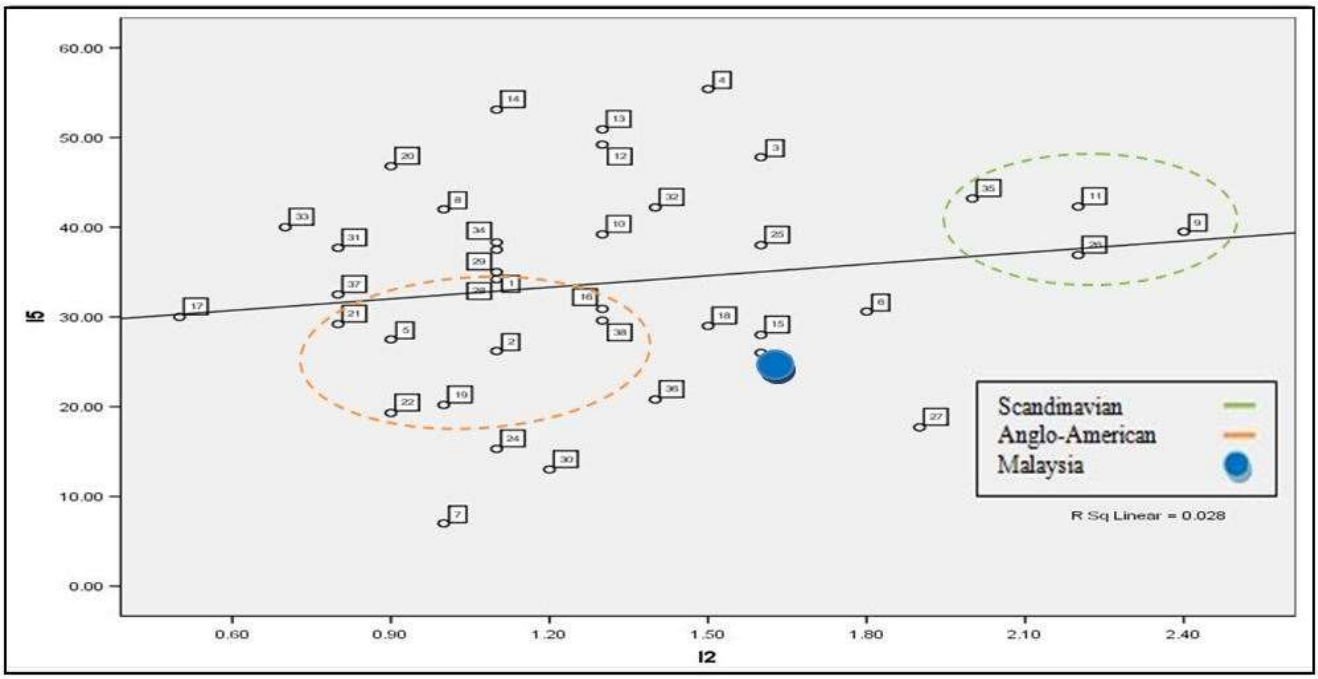

Figure 5: Public Spending on Higher Education versus Taxes on Average Worker

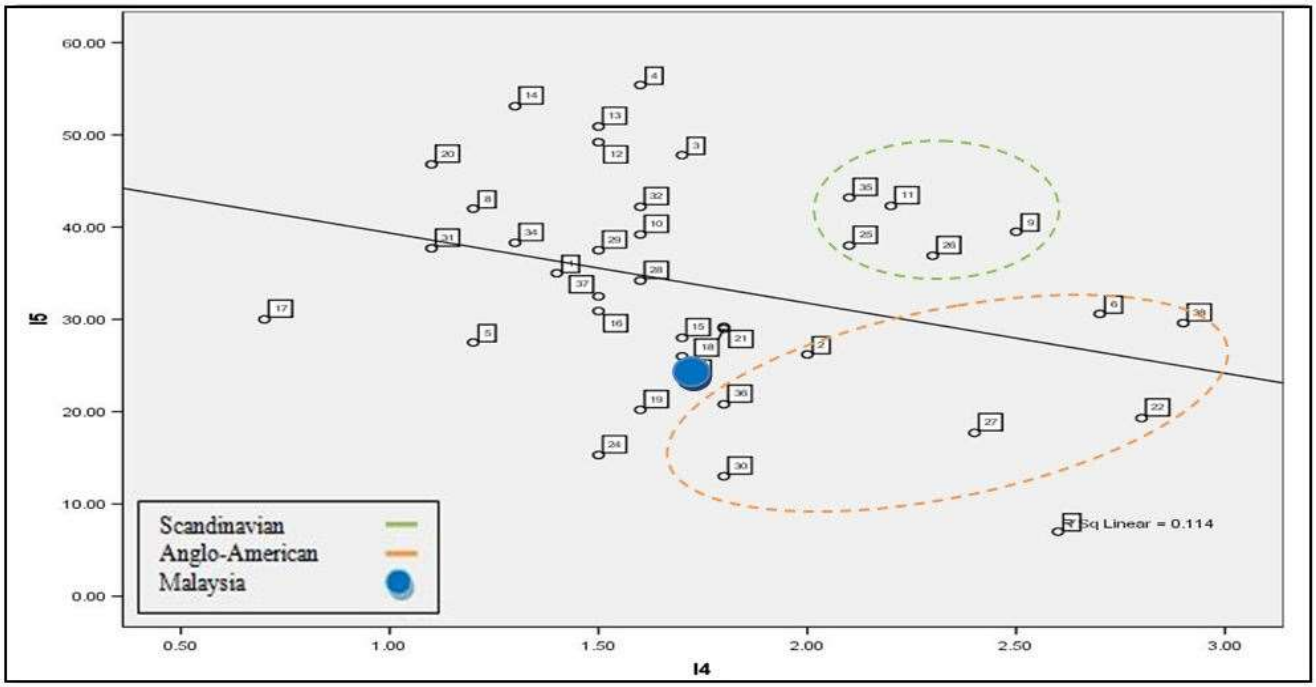

Figure 6: Total Spending on Higher Education versus Taxes on Average Worker

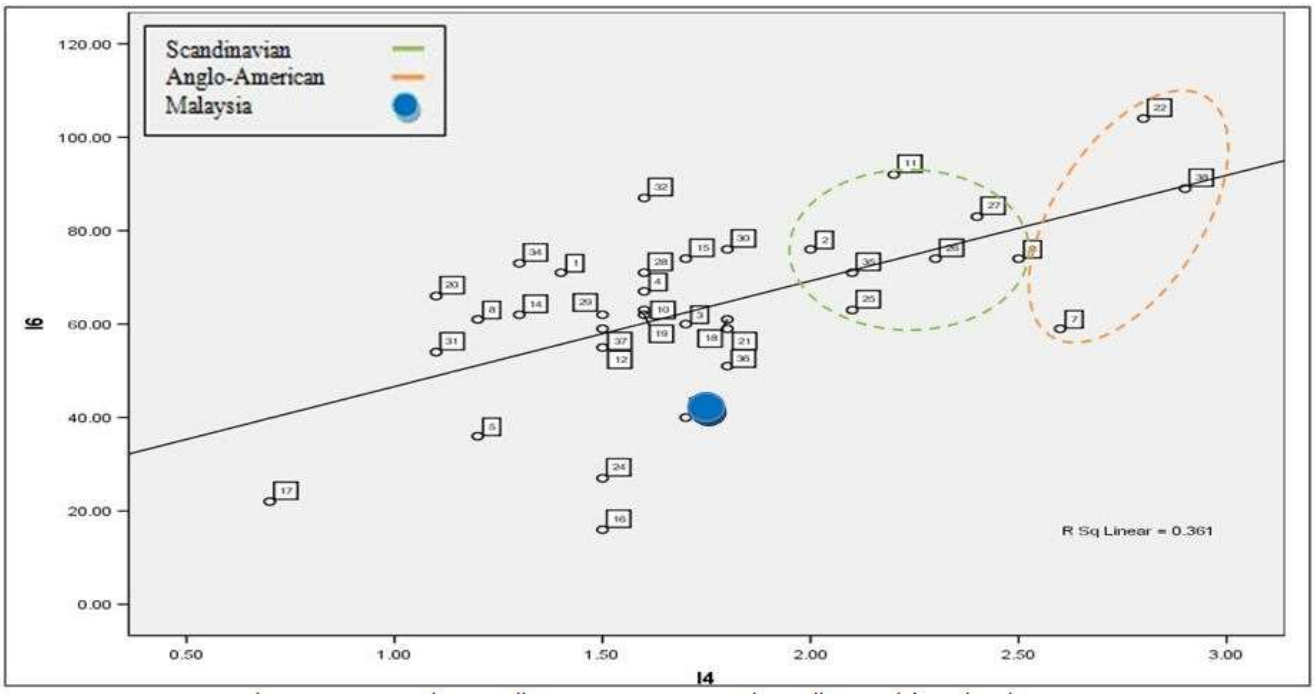

Figure 7: Total Spending on Higher Education versus Gross Enrolment Ratio

In many parts of the world, one of the policies concern with regards to higher education is widening access. Most of the developed nations have intensified their development of human capital as they believe that economic growth is highly related to the growth in human capital. For example, in Korea, the gross enrollment ratio has achieved 104 in the year 2009. In Malaysia, the government has targeted that by the year 2020 there should be 50% cohort of 17-23 year-olds in the tertiary education and, 33% of workforce with higher education. It is

undeniable fact that accessibility in higher education is very much related to the policy designed particularly funding for higher education. Taking this important issue, we try to investigate whether some of the variables mentioned earlier have the significant impact on enrolment.

Regression model,

$$E_r = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Where,

E_r = Gross Enrolment Ratio
α = constant
$\beta_1 \ldots\ldots \beta_4$ = Estimated coefficients of the independent variables.
X_1 = Public Spending on Higher Education
X_2 = Private Spending on Higher Education
X_3 = Private Taxes on Average Worker
X_4 = Gross Domestic Expenditure on R&D
e = Error terms

The regression analysis result in Table 4 shows that the public and private spending on tertiary education have significance influence towards gross enrolment ratio ($p < 0.05$). R^2 for this model is 0.49, which indicates nearly 50% of the changes in gross enrolment ratio are explained by the independent variables. By looking at the coefficient on both public and private spending in tertiary education, it somehow shows that the contribution of private spending towards the increment of enrolment, outweigh the public contribution.

Table 4: Regression analysis result

	Significance (P < 0.05)	**t-value (t > 1.96)**	**Beta Coefficients**
Public Spending on HE (% GDP) **(I2)**	0.007	2.89	21.03
Private Spending on HE (% GDP) **(I3)**	0.003	3.20	26.66
Taxes on Average Worker **(I5)**	0.104	1.68	0.50
Gross Domestic Expenditure on R&D (% of GDP) **(I7)**	0.171	1.40	4.09

Conclusion

This paper concludes that Malaysia is neither following the pure Scandinavian nor Anglo-American countries in financing higher education. The division between the Scandinavian approach (Scandinavia, Netherlands and New Zealand; shifted from the Anglo-American countries), Anglo-American approach (Australia, South Korea, Chile and United States), and the rest of the countries are clearly shown. Malaysia is found to be in between the two approaches. The use of public resources to fund higher education is clearly adopted by Scandinavian countries whereas Anglo-American is more on private spending. High taxes on average worker and huge R&D expenditures are demonstrated by Scandinavian countries, while enrolment rate is high in Anglo-American countries. In general, Malaysia depicts a hybrid model of financing where it neither follow the Scandinavian nor the Anglo American model.

The finding from the analysis posits the fact that both public and private spending on higher education have significance influence on the gross enrolment ratio. Nonetheless, Anglo-American countries that are high with their private spending on higher education (I3) have better enrolments as compared to the Scandinavian countries with high public spending (I2). This is supported by the regression analysis result in which the private spending on higher education (I3) has slightly better coefficient as compared to the public spending (I2) in enhancing access. Taking this into consideration, improving a private spending policy in higher education might support the role of the existing public spending. Besides, there is no negative correlation between the relative share of private expenditure and entry rates in tertiary education (OECD, 2012). In this light, cost recovery through introducing or increasing tuition fees can represent the private spending through the cost sharing in higher education. However, the increased in tuition fees have to be well supported by a good student financial support as not to deter students from less advantaged economics background to have access in higher education. As such, student financial support such as income contingent loan with deferred fees can be introduced.

Based on countries' preference, both approaches that prioritize different policies disclosed that every indicator will have its influence on the nature of tertiary education whether to dominantly utilizing public or private funding; a true policies' guideline for Malaysia. However, in order to sustain the quality and equity in the provision of tertiary education, the government should not neglect the importance of public investment in higher education. Nevertheless, with low tax regime, policy of enhancing enrolment in higher education through increasing public spending may pose a burden to the government and to consider free higher education for all by abolishing higher education fees is clearly not feasible. Therefore it is important to strike the balance between both approaches.

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APPENDIX A: Indicators Value by Countries

	Country	I1	I2	I3	I4	I5	I6	I7
1	Argentina	6.0	1.1	0.3	1.4	35.0	71	0.52
2	Australia	5.0	1.1	0.9	2.0	26.2	76	2.13
3	Austria	6.0	1.6	0.1	1.7	47.8	60	2.72
4	Belgium	6.6	1.5	0.1	1.6	55.4	67	2.03
5	Brazil	5.7	0.9	0.3	1.2	27.5	36	1.08
6	Canada	5.1	1.8	0.9	2.7	30.6	N/A	1.92
7	Chile	4.5	1.0	1.6	2.6	07.0	59	0.39
8	Czech Republic	4.4	1.0	0.2	1.2	42.0	61	1.48
9	Denmark	8.7	2.4	0.1	2.5	39.5	74	3.06
10	Estonia	6.1	1.3	0.3	1.6	39.2	63	1.43
11	Finland	6.8	2.2	0.1	2.2	42.3	92	3.92
12	France	5.9	1.3	0.2	1.5	49.2	55	2.26
13	Germany	5.1	1.3	0.2	1.5	50.9	N/A	2.82
14	Hungary	5.1	1.1	0.2	1.3	53.1	62	1.17
15	Iceland	7.8	1.6	0.1	1.7	28.0	74	2.64
16	India	3.5	1.3	0.4	1.5	30.9	16	0.80
17	Indonesia	3.0	0.5	0.2	0.7	30.0	22	0.05
18	Ireland	6.5	1.5	0.3	1.8	29.0	61	1.74
19	Israel	5.8	1.0	0.6	1.6	20.2	62	4.46
20	Italy	4.7	0.9	0.2	1.1	46.8	66	1.26
21	Japan	3.8	0.8	1.0	1.8	29.2	59	3.36
22	Korea	5.0	0.9	1.9	2.8	19.3	104	3.56
23	Malaysia	5.8	1.6	0.1	1.7	22.6	40	0.84
24	Mexico	5.3	1.1	0.4	1.5	15.3	27	0.37
25	Netherlands	5.9	1.6	0.5	2.1	38.0	63	1.82
26	Norway	7.3	2.2	0.1	2.3	36.9	74	1.78
27	New Zealand	7.2	1.9	0.5	2.4	17.7	83	1.30
28	Poland	5.1	1.1	0.5	1.6	34.2	71	0.68
29	Portugal	5.8	1.1	0.4	1.5	37.5	62	1.64
30	Russian Federation	4.7	1.2	0.6	1.8	13.0	76	1.25
31	Slovak Republic	4.1	0.8	0.3	1.1	37.7	54	0.48
32	Slovenia	5.7	1.4	0.2	1.6	42.2	87	1.86
33	South Africa	4.8	0.7	N/A	N/A	40.0	13	0.92
34	Spain	5.0	1.1	0.3	1.3	38.3	73	1.38
35	Sweden	7.3	2.0	0.2	2.1	43.2	71	3.61
36	Switzerland	5.5	1.4	0.4	1.8	20.8	51	3.00
37	United Kingdom	5.6	0.8	0.7	1.5	32.5	59	1.85
38	United States	5.5	1.3	1.6	2.9	29.6	89	2.90

APPENDIX B: Model Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.851	15.738		-.118	.907
	I2	21.025	7.284	.456	2.886	.007
	I3	26.661	8.327	.581	3.202	.003
	I5	.496	.295	.278	1.677	.104
	I7	4.085	2.909	.219	1.404	.171

a. Dependent Variable: I6